



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/747,942

12/31/2003

Shalini Periyalwar

14577

6950

293

7590

02/03/2009

Ralph A. Dowell of DOWELL & DOWELL P.C.
2111 Eisenhower Ave
Suite 406
Alexandria, VA 22314

EXAMINER

HSU, ALPUS

ART UNIT

PAPER NUMBER

2419

MAIL DATE

DELIVERY MODE

02/03/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/747,942	Applicant(s) PERIYALWAR ET AL.	
	Examiner Alpus H. Hsu	Art Unit 2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. Applicant's arguments with respect to claims 1-46 have been considered but are moot in view of the new ground(s) of rejection with the corrected referencing of NAN (network access node) being the MAP 20 and AGNs (aggregation nodes) being the RBS 16.

2. The subject matter of a properly construed claim is defined by the terms that limit its scope. It is this subject matter that must be examined. As a general matter, the grammar and intended meaning of terms used in a claim will dictate whether the language limits the claim scope. Language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation. The following are examples of language that may raise a question as to the limiting effect of the language in a claim:

- (A) statements of intended use or field of use,
- (B) “**adapted to**” or “adapted for” clauses,
- (C) “**wherein**” clauses, or
- (D) “whereby” clauses.

This list of examples is not intended to be exhaustive. See also MPEP § 2111.04. USPTO personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim should not be read into the claim. *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003) (claims must be interpreted “in view of the specification” without importing limitations from the specification into the claims unnecessarily). *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550- 551 (CCPA 1969). See also *In re Zletz*, 893 F.2d 319, 321-22, 13

Art Unit: 2419

USPQ2d 1320, 1322 (Fed. Cir. 1989) (“During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow.... The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed.... An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process.”)

NOTE: The claim limitation of “adapted to” as in each of claims 5, 8, 15, 21, 22, 24-26, 33-35, 38-41, 44 and 45 is not positively recited. However, by the broadest interpretation, the prior arts applied do meet all claim limitations following “adapted to”.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-4, 15, 16, 33 and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by WOLFE (of record).

Referring to claim 1, WOLFE discloses a multi-hop wireless backhaul network (18) comprising: at least one NAN (network access node) (20s); a plurality of BNs (base nodes) (22s); a plurality of AGNs (aggregation nodes) (16s), each performing a switching function in relaying traffic between at least one of the base nodes and at least one of the network access nodes (see paragraphs [0006], [0007], [0008], lines 8-16, and [0030]); wherein a hierarchical

Art Unit: 2419

topology of active wireless connections is established with the at least one network access node at the top of the topology, and the base nodes at the bottom of the topology (see paragraph [0014] and Figure 1).

Referring to claim 2, WOLFE discloses the multi-hop wireless backhaul network in combination with an access network (10) comprising a plurality of access network nodes (16s) for which the multi-hop wireless backhaul network is providing backhaul functionality.

Referring to claim 3, WOLFE discloses that at least some of the access network nodes are co-located and connected to or integrated with respective nodes of the multi-hop wireless backhaul network (see Figure 1).

Referring to claim 4, WOLFE discloses that the access network is a cellular wireless access network, and each access network node is a base station transceiver (see paragraph [0014] and Figure 1).

Referring to claim 15, WOLFE discloses the feature of dynamic bandwidth allocation (see paragraph [0043]).

Referring to claim 16, WOLFE discloses the feature of maintaining the topology information (see paragraphs [0045], [0051] and [0052]).

Referring to claims 33 and 34, WOLFE discloses the feature of ranging functionality (see paragraph [0046]).

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 5-8, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over WOLFE in view of NAUDUS (of record).

Referring to claims 5-8, 12 and 13, WOLFE differs from the claims, in that, it does not disclose the feature of utilizing a plurality of virtual circuits for allocating bandwidth for delay-sensitive traffic, which is well known in the art and commonly used in communications field for dedicated data transmission.

NAUDUS, for example, from the similar field of endeavor, teaches the feature of providing a plurality of virtual circuits for allocating bandwidth for delay-sensitive traffic (see col. 1, lines 31-37, col. 3, lines 15-38, col. 5, lines 30-41), which can be easily adopted by one of ordinary skill in the art to implement to provide dedicated data transmission to further enhance the quality of service for the customers/subscribers.

8. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over WOLFE in view of JOHANSSON (of record).

Referring to claims 9-11, WOLFE differs from the claims, in that, it fails to disclose a scheduler for performing scheduling operation, which well known in the art and commonly used in communications field for data scheduling.

JOHANSSON, for example, from the similar field of endeavor, teaches the feature of utilizing scheduler (410) for performing scheduling operation (see col. 11, line 52 to col. 12, line 18), which can be easily adopted by one of ordinary skill in the art to implement into the system to further improve the efficiency.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over WOLFE in view of NAUDUS, as applied to claims 1 and 5 above, and further in view of MELPIGNANO (of record).

Referring to claim 14, WOLFE in view of NAUDUS differs from the claim, in that, it does not disclose the feature of layer 2 circuit emulation, which is also well known in the art for layered protocol implementation. MELPIGNANO, for example, from the similar field of endeavor, teaches such feature (see paragraphs [0114] and [0116]).

10. Claims 17-20 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over WOLFE in view of SMITH (of record).

Referring to claims 17-20 and 35, WOLFE differs from the claims, in that, it fails to disclose the features of spatially switched antennas and transceiver, which are also well known in the art and commonly used in cellular network communication.

SMITH, for example, from the similar field of endeavor, teaches the feature of utilizing antennas and transceiver (see Figures 1 and 2), which can be easily adopted by one of ordinary

skill in the art to implement into the system to provide system with cellular network communication capability.

11. Claims 21-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over WOLFE in view of OHARA (of record).

Referring to claims 21-27, WOLFE differs from the claims, in that, it fails to disclose the features of alternate connections, failure detection, and automatic path healing, which are all well known in the art for network routing fault detection/correction.

OHARA, for example, from the similar field of endeavor, teaches the features of providing alternate connections, failure detection, and automatic path healing (see col. 1, lines 10-18, col. 2, lines 26-42, col. 2, line 63 to col. 3, line 6), which can be easily adopted by one of ordinary skill in the art to implement into the system to further improve the system reliability.

12. Claims 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over WOLFE in view of OHARA as applied to claims 21-27 above, and further in view of JOHANSSON.

WOLFE in view of OHARA differs from the claims, in that, it fails to disclose a scheduler for performing scheduling operation, which well known in the art and commonly used in communications field for data scheduling.

JOHANSSON, for example, from the similar field of endeavor, teaches the feature of utilizing scheduler (410) for performing scheduling operation (see col. 11, line 52 to col. 12, line 18), which can be easily adopted by one of ordinary skill in the art to implement into the system to further improve the efficiency.

13. Claims 36-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over WOLFE in view of SMITH as applied to claims 17-20 above, and further in view of OHARA.

WOLFE in view of SMITH differs from the claims, in that, it fails to disclose the features of alternate connections, failure detection, and automatic path healing, which are all well known in the art for network routing fault detection/correction.

OHARA, for example, from the similar field of endeavor, teaches the features of providing alternate connections, failure detection, and automatic path healing (see col. 1, lines 10-18, col. 2, lines 26-42, col. 2, line 63 to col. 3, line 6), which can be easily adopted by one of ordinary skill in the art to implement into the system to further improve the system reliability.

14. Claims 41-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over WOLFE in view of SMITH.

Referring to claims 41-44, WOLFE differs from the claims, in that, it fails to disclose the feature of including an element management system for providing management function, which is also well known in the art for network administration and/or management.

SMITH, for example, from the similar field of endeavor, teaches the feature of providing an element management system (20) for performing management function (see paragraphs [0019] and [0021]), which can be easily adopted by one of ordinary skill in the art to implement into the system to further improve the system control in network administration/management.

15. Claims 45 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over WOLFE in view of NAUDUS as applied to claims 1, 5-7 above, and further in view of SMITH.

WOLFE in view of NAUDUS differs from the claims, in that, it does not disclose the feature of including an element management system for providing management function, which is also well known in the art for network administration and/or management.

SMITH, for example, from the similar field of endeavor, teaches the feature of providing an element management system (20) for performing management function (see paragraphs [0019] and [0021]), which can be easily adopted by one of ordinary skill in the art to implement into the system to further improve the system control in network administration/management.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alpus H. Hsu whose telephone number is (571)272-3146. The examiner can normally be reached on M-F (5:30-3:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay K. Patel can be reached on (571)272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AHH

/Alpus H. Hsu/
Primary Examiner, Art Unit 2419